

TWO NEW SPECIES OF *VERBESINA* (ASTERACEAE) FROM SOUTHERN MEXICO

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ABSTRACT

Two new species of *Verbesina* are described from México: *V. fayii* B. Turner from Guerrero and *V. kimii* B. Turner from Veracruz. The former relates to the *V. virgata* complex of central México. The relationship of *V. kimii* is moot since it is a small tree with white rayed flowers and has a columnar receptacle, characters which do not readily position it among the known sections of the genus.

KEY WORDS: Asteraceae, *Verbesina*, México

Routine identification of Mexican Asteraceae has revealed the following novelties.

Verbesina fayii B. Turner, *sp. nov.* TYPE: MEXICO. Oaxaca: "Steep, moist, brushy, granitic slopes in deciduous forest region, ca. 23 km N of Putla, and 65 km SW of Tlaxiaco", ca. 1300 m, 30 Oct 1970, *A. Cronquist & J. Fay 10856* (HOLOTYPE: TEX!; Isotypes: NY,US!).

Verbesinae virgatae Cav. similis sed foliis elliptici-lanceolatis ad extrema duo pariter gradatim descrescentibus, ac paginis inferis aequaliter molliter pubescentibus valde venosisque differt.

Slender shrubs 1-3 m high, stems without wings, densely short pilose. Leaves alternate, markedly venose, mostly 8-12 cm long, 2.5-4.5 cm wide; petioles 1-10 mm long; blades elliptic to elliptic lanceolate, equally tapering at both ends, pinnately nervate, pilose above and below, more so below with somewhat appressed soft hairs, especially along the veins, the margins minutely serrulate to entire. Heads numerous and terminal in broad leafy cymose panicles. Involucres campanulate to somewhat hemispheric, 3-5 mm

high, 6-9 mm wide (pressed), the bracts 2-3 seriate, subgraduate to subequal. Receptacle conical, ca. as high as wide, the bracts linear oblanceolate with acute recurved apices. Ray florets pistillate, fertile, mostly 8-13, the ligules yellow to yellowish orange, 5-10 mm long, 2-4 mm wide. Disk florets numerous (50-100), the corollas yellow, 3-4 mm long, the tube pubescent, ca. 1 mm long, the throat mostly glabrous, ca. 2 mm long, the lobes ca. 0.3 mm long. Anthers yellow, the appendages ovate. Achenes oblanceolate, ca. 2 mm long, 0.8 mm wide, scarcely winged, if at all, appressed pubescent, the pappus of two, readily deciduous awns 1.0-1.5 mm long.

ADDITIONAL SPECIMENS EXAMINED: MEXICO. Guerrero: 11 mi W of Chilpancingo, ca. 6000 ft, 21 Oct 1963, *Cronquist 9711* (TEX,US). Oaxaca: 47 mi S of Sola de Vega, ca. 5700 ft, 7 Nov 1965, *Cronquist & Sousa 10510* (GH,TEX,US); 16 km Oeste de Sola de Vega, 2080 m, 22 Nov 1977, *Delgado S. et al. 630* (TEX); 56 km S of Tlaxiaco, growing in crevices and on vertical cliffs, 2000 m, 9 Nov 1990, *Panero 2105* (TEX); "Cerro Tres Cruces" al S de el Limón el cual esta a 11.1 km al SW del entronque carr. Tehuantepec - Oaxaca - Buenos Aires, Distr. de Tehuantepec, 9 Dec 1983, *Torres C. 4290* (TEX).

Verbesina fayii is closely related to the widespread, highly variable, *V. virgata* complex (Fig. 2) but is readily distinguished from among those by its leaves that are broader, elliptic-lanceolate, equally tapering at both ends, and more markedly venose and densely soft pubescent beneath.

The species is named for Dr. John Fay, co-collector of the type material and esteemed monographer of the mostly Mexican genus *Perymenium*.

Verbesina kimii B. Turner, *sp. nov.* Fig. 1. TYPE: MEXICO. Veracruz: 3 km S of Cd. Mendoza on road to Tehuacán, mountain summit near the Puebla-Veracruz border, steep limestone slopes, disturbed oak forest (ca. 18° 45' N, 97° 18' W), ca. 3000 m, 13 Jan 1987, *Ki-Joong Kim 10062* (HOLOTYPE: TEX!; Isotype: MEXU).

Verbesinae chilapanae B. Turner similis flosculis discii numerosis flavisque et receptaculis conicis sed differt habitu (arbor parva usque ad 5 m alta vs. frutex demissus 0.5-1.0 m altus), capitulis multo minoribus numerosioribusque (30+ vs. 5-7), et floribus radii ligulis albis (vs. flavis).

Trees to 5 m high. Stems thick, pithy, winged, velutinous-tomentose. Leaves alternate, 15-20 cm long, 6-10 cm wide; petioles 3-6 cm long, winged throughout; blades ovate, pinnately nervate, scabrous above, densely velutinous beneath, markedly venose, the margins irregularly serrate with ragged shallow lobes. Heads radiate, numerous in congested terminal cymose panicles,

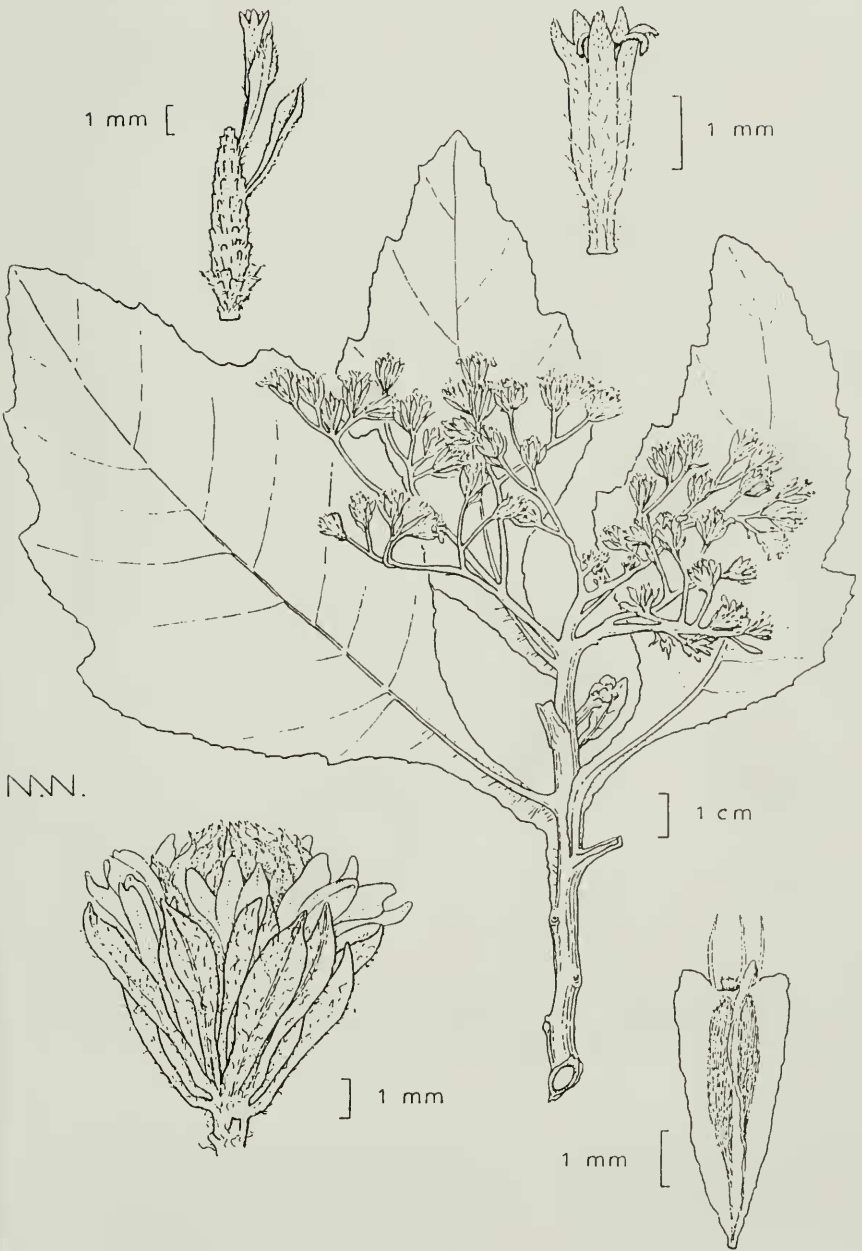


Fig. 1. *Verbesina kimii*, from holotype.



Fig. 2. Distribution of *Verbesina virgata* and closely related taxa. Area occupied by *V. favi* is shown by diagonal lines.

the ultimate peduncles densely pilose, mostly 3-10 mm long. Involucres turbocampanulate, 4-6 mm high, the bracts 2-3 seriate, somewhat graduate to subequal, the outer series pilose, oblanceolate. Receptacles, at maturity, columnar, 4-5 mm high, ca. 0.8 mm wide, the bracts numerous, folded, oblanceolate, pubescent, persistent, the apices erect, acute. Ray florets 13-32, pistillate, fertile; ligules white, 2-4 mm long, ca. 1 mm wide, 3-5 nervate. Disk florets numerous; corollas white (?), ca. 3 mm long, pubescent throughout, the tube ca. 0.8 mm long, the throat ca. 2 mm long, the lobes 0.2-0.4 mm long. Anthers dark (blackish), the appendages narrowly lanceolate, 2-3 times as long as wide. Style branches glabrous or nearly so, the appendages gradually attenuate. Achenes broadly winged, the peripheral achenes 3 sided and 3 winged, the more central achenes flattened and with 2 wings, 4-5 mm long, ca. 3 mm wide, the wings corky, ca. 0.8 mm wide, the pappus of two or rarely 3 persistent awns 1-2 mm long.

Because of its white rays, large alternate leaves and treelike habit, *Verbesina kimii* apparently appears to belong to the section *Ochractinia*, where it has no close relatives. In Blake's (1926) treatment of the trees and shrubs of México, the species will key to the common and widespread *V. turbacensis* H.B.K., which it superficially resembles. In Olsen's (1985) synopsis of section *Ochractinia*, the material concerned will key to the widespread, largely herbaceous, *V. microptera* DC., a common species of the Gulf coastal montane regions of México. *Verbesina kimii* differs from both of these taxa in having a markedly columnar receptacle with numerous florets. Indeed, it is possible that *V. kimii* is more closely related to species of the section *Verbesinaria* (sensu Robinson & Greenman 1899) than it is to section *Ochractinia*, largely because it has numerous disc florets on a pronounced, columnar or conical receptacle, which is found in certain species of the section *Verbesinaria* (e.g., *V. oaxacana* DC. and *V. chilapana*).

It is a pleasure to name this extraordinary species for its only collector, Dr. Ki-Joong Kim, an extraordinary doctoral student of mine, a superb synanthrologist and Korean national who monographed *Krigia* for his doctoral dissertation and is currently deeply involved in DNA analyses of the Asteraceae with Dr. Robert Jansen at the University of Texas, Austin.

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LITERATURE CITED

- Blake, S.F. 1926. *Verbesina* in *Trees and Shrubs of Mexico*. Contr. U.S. Natl. Herb. 23:1572-1586.
- Olsen, J. 1985. Synopsis of *Verbesina* sect. *Ochraetinia* (Asteraceae). Pl. Syst. Evol. 149:47-63.
- Robinson, B. & J. Greenman. 1899. Synopsis of the genus *Verbesina*. Proc. Amer. Acad. Arts 34:534-566.